

***NATIONAL WEATHER SERVICE
PRODUCT/SERVICE DESCRIPTION DOCUMENT (PDD)
TYPE: Official Product
DATE: May 08, 2003***

GRAPHICS SUPPORTING THE HAZARDOUS WEATHER OUTLOOK

Part 1 - Mission Connection

1. Product/Service Description:

Two probability graphics are used to supplement the text found in the daily Hazardous Weather Outlook (HWO). These graphics are the probability of a severe thunderstorm occurring and the probability of rainfall greater than one inch occurring within the next 24 hours. These probabilities are based on the climatology of an event occurring during the summer months, and forecaster knowledge of current atmospheric factors such as stability and atmospheric capping. The climatological probability of a severe thunderstorm ranges from 0.3

2. Purpose/Intended Use:

The purpose of the graphical HWO is to enhance official text forecast products by taking advantage of the display capabilities of the Internet. The text products alone are insufficient to communicate detailed weather forecasts and actual areas of probabilities. These probability graphics are used for county level planning purposes as well as conveying the future risk of severe weather in southeast Arizona. Ultimately the purpose of these products is to save lives and protect property.

3. Audience:

The main audience is county emergency management and flood control district officials. Another audience available through the Internet is weather hobbyists and commercial radio and television personalities.

4. Presentation Format:

The HWO text product and graphical probabilities are displayed on the Internet. The HWO follows national NWS policy guidelines. The graphical probabilities (created by GFE/IFPS) are a map of southeast Arizona containing the numerical probabilities between 0 and 100. The underlying climatological maps are present for comparison to the current forecasts. Information and Frequency Asked Questions (FAQ) web pages are available which describe the structure and purpose of these graphical products.

5. Feedback Method:

Most feedback comes from our emergency management and flood control district partners through meetings with WFO personnel. Feedback may also be provided by mail:

Tom Evans or Mike Schaffner
National Weather Service
520 N. Park Avenue - Suite 304
Tucson, AZ 85719
Phone 520-670-5156

E-mail comments or questions can be sent to tom.evans@noaa.gov or mike.schaffner@noaa.gov.

6. **Example/URL:**

During the monsoon season: <http://www.wrh.noaa.gov/tucson/thunder/hwo.shtml>.

Part 2 - Technical

1. **Format and Science Basis:**

This product was developed because text products lacked the detail required by emergency managers and flood control personnel. The baseline climatological graphics were created from Storm Data information. Creation of the forecast graphics employ analyses of atmospheric instability, precipitable water, winds aloft (700-300 mb), vertical wind shear/hodographs and synoptic features such as easterly waves, moisture surges and theta-e fields. All available numerical models and observational data in the Southwest and Mexico are used to create these graphics.

2. **Availability:**

These graphical probabilities are issued between 11:30am and 12 noon from June 15 through September 30. Updates are not issued for these graphics, although additional updated information is provided in standard NWS products such as the Area Forecast Discussions (AFD), Short Term Forecasts (NOW) and severe weather watches, warnings, advisories and statements.

3. **Additional Information:**

These probability graphics can be displayed with any Internet browser. The text equivalent of this information can be found in PHXHWOTWC; WMO header FLUS45 KTWC.